REVIEWS

BETWEEN PACIFIC TIDES. *By Edward F. Ricketts and Jack Calvin. Third edition revised by Joel W. Hedgpeth. Stanford University Press, Stanford, California. 1962. 516 pp. $8.75*

This book has been a necessity for Pacific Coast marine biologists and students since its first appearance in 1939. The 1962 revision of the *Third Edition* (1952) maintains the high quality of the original as well as offering some pertinent new material.

The first four chapters remain virtually unchanged except for a number of new illustrations, all of which were improvements. The organization of these chapters is similar, and each treats a broad shore habitat classification; i.e., *Protected Outer Coast, Open Coast, Bay and Estuary,* and *Wharf Piling.* Each of these habitats are, in turn, divided into four zones or horizons based on tidal exposures, ranging from the infrequently wetted uppermost beach to the low-tide region normally uncovered only by minus tides. Where advisable, the zones are subdivided into smaller units such as "Under-rock" or "Exposed rock." The animals in each of these zones and subzones are described, and something of their life history is given. The result is not a dry series of listings but rather a series of scientific vignettes and anecdotes.

This book has developed into something of a memorial to Ed Ricketts, the most apparent manifestation being the unchanged *Foreword* and *Preface.* The continuation of the policy in the *Third Edition* (revised) is noted in the new lead illustration for the chapter on *Wharf Piling,* where a much more interesting and appropriate photograph of Cabrillo Point (includes Cannery Row) replaces a nondescript view of Point Conception.

The introduction to Chapter V, *Intertidal Zonation and Related Matters,* has been brought up to date, although the remainder of the discussion has been changed little. A new chapter, *Newcomers to the Pacific Coast,* has been added. It formerly was something of an afterthought in the *Intertidal Zonation* section.

The greatest change in the text has been made in former Chapter V, *Plankton.* It has been eliminated. In its place has been added a new and interesting Chapter VII, *Beyond the Tides: The Uncertain Sea.* It is essentially an introduction to offshore marine ecology, drawing for much of its material on reports of the California Cooperative Oceanic Fisheries Investigations (CalCOFI). It ranges widely over problems in marine ecology of common knowledge to Pacific Coast people. Utilized as points of departure for discussion are such things as the disappearance of the Pacific sardine, the sewage outfall problems of southern California, and the disposal of radioactive wastes in the marine environment. Dr. Hedgpeth does quite well, and knowing his concern for the future regarding pollution by nuclear reactors using the ocean as a cooling source, I think he shows remarkable restraint in his discussion of that subject.

One more or less recurrent criticism of this book in all its editions and revisions has been the quality of the line drawings and graphs. This poor quality has been carefully maintained in this revision. I say carefully because the new chapter, *Beyond the Tides,* has a number of graphs most of which were taken from CalCOFI reports and duly acknowledged. However, instead of using the well-drawn graphs directly or maintaining their original high quality, each has been redrawn so that it matches the poor quality of graphs and diagrams in the previous editions. The inclusion of one particular illustration (Figure 132) serves no need. The photographs, by and large, are excellent, although there is a consistent tendency for them to be printed too dark.

Through all the editions and revisions, the appendix with its annotated systemic index and bibliography has remained one of the most valuable portions of the book, and if not complete, it is certainly adequate. It has also been updated.

Ricketts, and I suppose Calvin as well (although we know little about him), apparently thoroughly enjoyed studying the ecology of the seashore and wanted other people to appreciate and share their enthusiasm. Their interest is effectively furthered by avoiding the highly specialized terminology that has become associated with the study of communities. They have maintained instead a natural straightforward style, using sophisticated but intelligible language and employing special terms as needed but not as studied symbols of their erudition. Dr. Hedgpeth, insofar as is possible, maintains this style in his revision.

The comments regarding illustrations notwithstanding, this book, in my opinion, still remains the best of its kind for the Pacific Coast from northern Baja California, to southeastern Alaska. Perhaps the 1972 edition will do something about the line drawings.

J. BRUCE KIMSEY

U.S. Bureau of Commercial Fisheries
Biological Laboratory
Galveston, Texas

LABORATORY ESSENTIALS OF PARASITOLOGY. *By Marvin C. Meyer and Lawrence R. Penner. Revised edition. W. C. Brown Company, Dubuque, Iowa. 1962. 134 pp.*

The aim of the authors was to prepare a laboratory manual "to meet the needs . . . of any student taking his first course in general animal parasitology." The manual was to include not only the common parasites of direct human concern, but also those of other animals; instruction for the preparation of material prior to examination under the compound microscope was to be included. In all of the above, the authors have met with outstanding success.

The manual is not entirely free of errors, but the errors are few and are those commonly found in textbooks. For example, the authors state (p. 3) that the Trematoda have an incomplete alimentary canal. This is true in most cases, but certain members of the family Allocreadiidae, for example, have a complete alimentary canal.

This revision is well written and almost free from typographical errors. Several manuals (Cable, R. M., *An Illustrated Laboratory Manual of Parasitology;* Hoffman, G. L., *Medical Parasitology;* Manter, H. W., *A Laboratory Manual in Animal Parasitology*) give special reference to the animal parasites of man. These manuals all contain one feature, a